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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/797,673

Applicant(s)

SUKHADIA ET AL.

Examiner

RIP A. LEE

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 18-33, 36-39, 42, 43 and 46-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 18-33, 36-39, 42, 43, and 46-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This office action follows a response filed on January 30, 2009. Claims 1, 20, 38, 46, 47, and 48 were amended. Claims 1-15, 18-33, 36-39, 42, 43, and 46-48 are pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-15, 18-33, 36-39, 42, 43, and 46-48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims recite the limitation that the chemically treated solid oxide is substantially free of zirconium and chromium. Any claims containing a negative limitation which does not have basis in the original disclosure are rejected under 35 U.S.C. 112, first paragraph for failing to comply with the written description requirement. *Ex Parte Grasselli*, 231 USPQ 393 (Bd. App. 1983), *aff'd mem.*, 738 F.2d 453 (Fed. Cir. 1984). See MPEP § 2173.05(i). The specification discloses metal-treated solid oxide on page 25, lines 24-26, page 27, lines 5-8, and page 35, lines 18-23. However, there is no disclosure of treatment of solid oxide with zirconium or with chromium. Therefore, it is deemed that the claimed subject matter is not described in the specification in such a way as to convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention.

3. Claims 1-15, 18-33, 36-39, 42, 43, and 46-48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims recite the limitation that copolymer has a polydispersity index (M_w/M_n) of greater than or equal to about 4. The specification discloses polydispersity index of inventive polymer on page 4, line 24 (M_w/M_n less than or equal to about 20) and page 5, lines 5, 12, and 13 (M_w/M_n less than or equal to about 12, 10, and 6, respectively). While inventive polymers have specified upper bounds of polydispersity, there appears to be no teaching that polymers necessarily contain a lower limit of about 4. Notably, the specification is devoid of any indication that inventive polymers have a polydispersity within the range of about 4 to about 20, as implied in instant claim 1. In light of these considerations, it is deemed that the claimed subject matter is not described in the specification in such a way as to convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention.

4. Claims 1-15, 18-33, 36-39, 42, 43, and 46-48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims recite the limitation that the copolymer has a HLMI/MI ratio of greater than or equal to about 37. The specification discloses high load melt index (HLMI) and melt index (MI) of inventive polymer on page 4, line 22 (HLMI = 8-180 dg/min, MI = 0.01-10). Polymers having a lower limit of HLMI = 8 may exhibit HLMI/MI in the range of 0.8 to 800, and polymers having an upper limit of HLMI = 180 may exhibit HLMI/MI in the range of 18-18,000. The HLMI/MI ratio for this subset of inventive polymer spans an entire range of 0.8-18,000. Even for the narrowest embodiment of the invention (HLMI = 11-100 dg/min, MI = 0.05-5; page 5, line 10), the ratio HLMI/MI lies in the range of 2.2-2000. There appears to be no teaching that

inventive polymers necessarily exhibit a lower limit of about 37, as indicated in the instant claims. In light of these considerations, it is deemed that the claimed subject matter is not described in the specification in such a way as to convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 102 / 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 38, 39, 42, 43, and 48 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over McDaniel *et al.* (U.S. 6,300,271).

McDaniel *et al.* teaches a catalyst comprising a transition metal complex, an organoaluminum, and a solid oxide treated with an electron withdrawing anion. The solid support is alumina or silica-alumina (col. 8, lines 7 and 14). Representative treated supports include sulfated alumina (examples 11-15), fluorided alumina (example 18), bromided alumina (example 25), chlorided alumina (examples 28-31), and chlorided silica-alumina (example 37). Sulfated silica-alumina and bromided silica-alumina are also within the scope of the invention. The organoaluminum compounds are shown in col. 4, lines 7-15. Transition metal complexes are shown in claim 8; the compounds $\text{Et(Ind)}_2\text{ZrCl}_2$, $\text{Et(Ind)}_2\text{HfCl}_2$, $\text{Et(ThInd)}_2\text{ZrCl}_2$, $\text{Et(ThInd)}_2\text{HfCl}_2$, $\text{Me}_2\text{Si(Ind)}_2\text{ZrCl}_2$, $\text{Me}_2\text{Si(Ind)}_2\text{HfCl}_2$, $\text{Me}_2\text{Si(ThInd)}_2\text{ZrCl}_2$, and $\text{Me}_2\text{Si(2-MeInd)}_2\text{ZrCl}_2$ are representative.

McDaniel *et al.* is silent in characterizing a polymer as recited in the instant claims. Note, however, that claims are drawn to a composition, rather than a process or polymer product. And in view of the fact that the composition of the prior art is substantially the same as that recited in the instant claims, a reasonable basis exists to believe that the resulting composition will produce the claimed product under appropriate conditions. Since the PTO can not perform experiments, the burden of proof is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

7. Claims 38, 39, 42, 43, and 48 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over McDaniel *et al.* (U.S. 6,391,816).

McDaniel *et al.* teaches a catalyst comprising a transition metal complex, an organoaluminum, and a solid oxide treated with an electron withdrawing anion. The support is a vanadium containing bromided alumina or vanadium containing chlorided alumina (col. 10, lines 45-50; col. 12, lines 3-23). The organoaluminum compounds are shown in col. 10, lines 7-15. Transition metal complexes are shown in the text in columns 5-10; see also claim 14. The compounds $\text{Ph}(\text{C}_8\text{H}_{16})\text{Si}(\text{Ind})_2\text{HfCl}_2$ (col. 7, line 1), and constrained geometry metallocene $\text{Me}_2\text{Si}(\text{N-}i\text{Pr})\text{TiCl}_2$ (col. 8, line 10) are representative. McDaniel *et al.* (col. 4, lines 40-45) teaches that known metallocenes are used to make inventive catalysts such as those shown in Geerts (U.S. 5,480,848; col. 7, line 2) and Palackal *et al.* (U.S. 5,401,817; claim 9), the entire disclosure of which is incorporated by reference. These bridged metallocenes that are useful for practicing the invention include isopropylidene(cyclopentadienyl) (fluorenyl)zirconium dichloride and diphenylsilyl(cyclopentadienyl)(fluorenyl)zirconium dichloride.

McDaniel *et al.* is silent in characterizing a polymer as recited in the instant claims. Note, however, that claims are drawn to a composition, rather than a process or polymer product. And in view of the fact that the composition of the prior art is substantially the same as that recited in the instant claims, a reasonable basis exists to believe that the resulting composition will produce the claimed product under appropriate conditions. Since the PTO can not perform experiments, the burden of proof is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

8. Claims 38, 39, 42, 43, and 48 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Collins *et al.* (U.S. 6,524,987).

Collins *et al.* teaches a catalyst comprising a transition metal complex, an organoaluminum, and a solid oxide treated with an electron withdrawing anion. The support is a zinc containing halided (*i.e.*, fluorided, chlorided, or bromided) alumina or silica-alumina (col. 7, lines 35-40; col. 8, lines 16-65). The organoaluminum compounds are shown in col. 6, lines 13-24. Transition metal complexes are shown in the text in columns 5-10; see also claim 14. The compounds $\text{Ph}_2\text{C}(\text{Cp})(\text{Flu})\text{ZrCl}_2$ (organometal B) and $\text{Ph}(\text{Me})\text{C}(\text{Flu})(\text{Cp})\text{ZrCl}_2$ (organometal C) are representative. Other bridged metallocenes that are useful for practicing the invention include $\text{Me}_2\text{C}(\text{Cp})(\text{Flu})\text{ZrCl}_2$. Additional activator such as aluminoxane or borates may be used in conjunction with the inventive catalysts (col. 11, lines 56-60).

Collins *et al.* is silent in characterizing a polymer as recited in the instant claims. Note, however, that claims are drawn to a composition, rather than a process or polymer product. And in view of the fact that the composition of the prior art is substantially the same as that recited in the instant claims, a reasonable basis exists to believe that the resulting composition will produce the claimed product under appropriate conditions. Since the PTO can not perform experiments, the burden of proof is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

9. Claims 38, 39, 42, 43, and 48 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over McDaniel *et al.* (U.S. 6,548,441).

McDaniel *et al.* teaches a catalyst comprising a transition metal complex, an organoaluminum, and a solid oxide treated with an electron withdrawing anion. The support is a nickel containing, chlorided or bromided alumina (col. 3, lines 1-4). The organoaluminum compounds are shown in col. 10, lines 40-50. Transition metal complexes are shown in the text in columns 5-10; see also claim 24. The compounds $\text{Ph}(\text{C}_8\text{H}_{16})\text{Si}(\text{Ind})_2\text{HfCl}_2$ (col. 6, line 52), and constrained geometry metallocene $\text{Me}_2\text{Si}(\text{N-}i\text{Pr})\text{TiCl}_2$ (col. 8, line 1) are representative. Other bridged metallocenes that are useful for practicing the invention include

$\text{Me}_2\text{C}(\text{Cp})(\text{Flu})\text{ZrCl}_2$ and $\text{Ph}_2\text{Si}(\text{Cp})(\text{Flu})\text{ZrCl}_2$. Additional activator such as aluminoxane or borates may be used in conjunction with the inventive catalysts (col. 13, lines 56-60).

McDaniel *et al.* is silent in characterizing a polymer as recited in the instant claims. Note, however, that claims are drawn to a composition, rather than a process or polymer product. And in view of the fact that the composition of the prior art is substantially the same as that recited in the instant claims, a reasonable basis exists to believe that the resulting composition will produce the claimed product under appropriate conditions. Since the PTO can not perform experiments, the burden of proof is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

10. Claims 38, 39, 42, 43, and 48 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hawley *et al.* (U.S. 6,573,344).

Hawley *et al.* teaches a catalyst comprising a transition metal complex, an organoaluminum, and a solid oxide treated with an electron withdrawing anion. The support is a halided (*i.e.*, fluorided, chlorided or bromided) alumina or silica-alumina (col. 9, lines 22-24, col. 9, line 45-col. 10, line 38). The organoaluminum compounds are shown in col. 8, lines 6-17. Transition metal complexes are shown in the text in columns 4-7. The compound $\text{Ph}(\text{C}_8\text{H}_{16})\text{Si}(\text{Ind})_2\text{HfCl}_2$ (col. 5, line 47) is representative. Other bridged metallocenes that are useful for practicing the invention include $\text{Me}_2\text{C}(\text{Cp})(\text{Flu})\text{ZrCl}_2$ and $\text{Ph}_2\text{Si}(\text{Cp})(\text{Flu})\text{ZrCl}_2$. Additional activator such as aluminoxane or borates may be used in conjunction with the inventive catalysts (col. 13, lines 24-28).

Hawley *et al.* is silent in characterizing a polymer as recited in the instant claims. Note, however, that claims are drawn to a composition, rather than a process or polymer product. And in view of the fact that the composition of the prior art is substantially the same as that recited in the instant claims, a reasonable basis exists to believe that the resulting composition will produce the claimed product under appropriate conditions. Since the PTO can not perform experiments, the burden of proof is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

11. Claims 1-11, 14, 15, 18-29, 32, 33, 36-39, 42, 43, and 46-48 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over *Thorn et al.* (U.S. 2005/0113243).

Thorn et al. teaches a catalyst comprising a metal complex containing hydrocarbyl ancillary ligands, an organoaluminum, and a solid oxide treated with an electron withdrawing anion. The support is a halided (*i.e.*, fluorided, chlorided or bromided) or sulfated alumina or silica-alumina; see paragraphs [0018], [0019], and [0137]-[0143]. The organoaluminum compounds are disclosed in paragraph [0155]. Representative transition metal complexes are shown in paragraphs [0099], [0101], [0102], [0105]-[0109], [0111], [0114], and [0115]. Inventive catalysts are used for copolymerization of ethylene with alpha olefin; paragraph [0183]. Catalysts may further comprise an organozinc reagent, aluminoxane, or borate (paragraphs [0030]-[0039]). Isobutane is used as diluent for slurry processes (paragraph [0201]). Catalysts are used in a process to prepare ethylene-alpha olefin copolymer, where the alpha olefin is butene, hexene, or octene (paragraph [0184]). Preferably, catalysts are used to prepare ethylene-hexene copolymer (table 1). Feed ratio of co-monomer is about 0.01 to 10 wt %, based on total monomer, and sufficient co-monomer is provided to give the recited comonomer content in the copolymer produced (paragraph [0184]). Resulting polymer exhibits HLMI/MI ratios exceeding the claimed lower limit of 37 (Table 1, entries 7-10; HLMI/MI = 113, 260, 87 and 61).

Thorn et al. is silent with respect to full characterization of polymer. However, in view of the fact catalysts of *Thorn et al.*, which are substantially the same as that described in instant claims, are used in substantially the same process as that recited in instant claims, such that substantially similar polymer having high HLMI/MI ratio are formed, a reasonable basis exists to believe that polymer also exhibits the claimed features. Since the PTO can not perform experiments, the burden of proof is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 38, 39, 42, 43, and 48 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12, 14-17, and 19 of Jensen *et al.* (U.S. Patent No. 7,041,617). Although the conflicting claims are not identical, they are not patentably distinct from each other. Claims of the copending application are drawn to a catalyst composition comprising the contact product of at least one tightly bridged metallocene, an organoaluminum compound, and chemically treated solid oxide that is fluorided alumina, chlorided alumina, bromided alumina, sulfated alumina, chlorided silica alumina, bromided silica alumina, and sulfated silica alumina. The catalyst composition further comprises metal (ion) selected from zinc, nickel, vanadium, silver, copper, gallium, or tin. Solid oxides are thus substantially free of titanium, zirconium, molybdenum, chromium, and tungsten, as required by instant claims. Metallocenes meet the structural features outlined in the instant claims and they are not the metallocenes excluded by instant claims. Claims of the copending application are drawn to catalyst containing two tightly bridged metallocenes, however, instant claims are drawn

to catalyst that comprises at least one tightly bridged metallocene. Thus, the claims of the instant application are generic to, *i.e.*, fully encompass, the claims of the copending application, and therefore, the claims of the instant application are anticipated by the claims of the copending application. Patent claims are silent in characterizing a polymer as recited in the instant claims. Note, however, that claims are drawn to a composition, rather than a process or polymer product. And in view of the fact that the composition of the prior art is substantially the same as that recited in the instant claims, that person of ordinary skill would have found it obvious that the composition of Jensen *et al.* will produce the claimed product under appropriate conditions.

13. Claims are directed to an invention not patentably distinct from claims of commonly assigned U.S. Patent No. 7,041,617 for the same reasons elucidated in previous paragraph 12.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned U.S. Patent No. 7,041,617, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were *commonly owned at the time the invention in this application was made*, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Response to Arguments

14. Applicant traverses the rejection of claims under 35 U.S.C. 112, 1st paragraph for failing to comply with the written description requirement regarding the limitation that the chemically treated solid oxide is substantially free of zirconium and chromium. Applicant submits that the specification discloses that the solid oxide may comprise zirconium or chromium on page 28, lines 4-6. Based on this observation, Applicant cites *In re Johnson*, stating that if alternative elements are positively recited in the specification that they may be explicitly excluded in the claims. Applicant's arguments have been considered fully, but they are not persuasive. The cited portion of the specification is a broad teaching of what types of solid oxide may be used for practicing the invention. These include, *inter alia*, zirconium oxide (zirconia) or chromium oxide. The proviso statement in the claim, however, is drawn to the metal (ion) used in addition to electron withdrawing anion to treat the metal oxide. It is this detail that lacks support in the disclosure. As indicated previously, the specification discloses metal-treated solid oxide on page 25, lines 24-26, page 27, lines 5-8, and page 35, lines 18-23:

"...the chemically treated solid oxide can further comprise a metal or metal ion selected from the group consisting of zinc, nickel, vanadium, silver, copper, gallium, tin, tungsten, molybdenum, or any combination thereof."

Clearly, there is no disclosure of treatment of solid oxide with zirconium or with chromium. In this case, the fact pattern is dissimilar to that of *In re Johnson* in which it was ruled that where Applicant erroneously believed that he was the first with a genus, he retains the right to retreat to otherwise patentable species. In light of this and previous discussion, the rejection has been maintained.

Applicant traverses the rejections of claims under 35 U.S.C. 112, 1st paragraph for failing to comply with the written description requirement regarding the limitation that the copolymer has a polydispersity index (M_w/M_n) of greater than or equal to about 4 and that the copolymer has a HLMI/MI ratio of greater than or equal to about 37. Applicant points to the Resin C in Table 6 as written support for the claimed ranges. It is not clear how this single polymer product

exhibiting one set of properties is fully supportive of an entire range of polymer with associated properties. Moreover, the cited example is prepared in the presence of a catalyst comprising the contact product of flourided silica exclude fluorided silica alumina and the exemplary metallocenes. Based on these considerations, it is deemed that the claims fail to comply with the written description requirement, and accordingly, the rejections have been maintained.

Upon further consideration, the rejection of process claims 1-15, 18-33, 36, 37, 46, and 47 over McDaniel *et al.* (U.S. 6,300,271), McDaniel *et al.* (U.S. 6,391,816), Collins *et al.* (U.S. 6,524,987), McDaniel *et al.* (U.S. 6,548,441), and Hawley *et al.* (U.S. 6,573,344) have been withdrawn. References do not disclose unambiguously or fairly suggest a process of making the claimed polymer product. Composition claims have been maintained for the reasons set forth above. It is noted that claims are drawn to compositions rather than processes or polymers.

The rejection of claims over Thorn *et al.* has been maintained. Applicant points out that Thorn *et al.* does not teach metal oxides substantially free of titanium, zirconium, molybdenum, chromium, and tungsten. The prior art teaches that solid oxide may be used without treatment with metal or metal ion. In this case, the metal oxide is substantially free of titanium, zirconium, molybdenum, chromium, and tungsten as claimed. Where metal ion is used, the solid oxide may further comprise a metal or metal ion selected from the group consisting of zinc, nickel, vanadium, silver, copper, gallium, and tin. Such solid oxides are also free of titanium, zirconium, molybdenum, chromium, and tungsten.

The rejections of process claims over Hawley *et al.* (U.S. 6,667,274) and Jensen *et al.* (U.S. 7,041,617) have been withdrawn. Neither of the references teaches or fairly suggests a process of making the claimed polymer product. Rejections of composition claims have been withdrawn; this application now claims priority to both references. The rejection of claims over Jensen *et al.* has been supplanted with an obviousness type double patenting rejection, *supra*.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/Rip A. Lee/
Examiner, Art Unit 1796

May 7, 2009

/David Wu/

Supervisory Patent Examiner, Art Unit 1796